WHAT IS CLAIMED IS:

1. A method for forming a dried chemical composition, the method comprising the steps of:

forming a solution comprising a desired compound;

dispensing uniform, precisely measured drops of the solution into a cryogenic liquid, whereby the drops are frozen; and

drying the frozen drops, thereby forming dried beads comprising the compound.

2. The method of claim 1 wherein the solution is an aqueous solution.

3. The method of claim 1 wherein the desired compound is a reagent for the analysis of a biological sample.

4. The method of claim 1 wherein the desired compound is sodium fluoride.

5. The method of claim 1 wherein the desired compound is potassium oxalate.

6. The method of claim 1 wherein the cryogenic liquid is unagitated.

7. The method of claim 1 wherein the dried beads have a mean diameter between about 1.5 mm and about 3.5 mm.

8. The method of claim 1 wherein the dried beads have a coefficient of weight variation less than about 3.0%.

9. The method of claim 1 wherein the uniform, precisely measured drops have a volume between about 1.5 μl and about 25 μl.

10. The method of claim 1 wherein the aqueous solution is degassed before dispensing uniform, precisely measured drops.

11. The method of claim 1 wherein the cryogenic liquid is liquid nitrogen.

12. The method of claim 1 wherein the aqueous solution further comprises a filler in a concentration sufficient to facilitate formation of a chemical lattice in the dried beads.

13. The method of claim 12 wherein the filler is polyethylene glycol, myo-inositol, polyvinylpyrrolidone, dextran, sodium cholate, mannitol, bovine serum albumin, or a combination thereof.

14. The method of claim 1 wherein the aqueous solution further comprises a surfactant at a concentration sufficient to inhibit bubble formation when the dried beads dissolve.

15. The method of claim 14 wherein the surfactant comprises octoxynol 9 or polyoxyethlene 9 lauryl ether.

16. The method of claim 1 wherein the step of drying is carried out by lyophilizing the solution for about 4 hours to about 24 hours at about 50 to about 450 mTorr.

17. A dried chemical composition made in accordance with the method of claim 1.

18. A dried chemical composition comprising a plurality of dried beads having a coefficient of weight variation of less than about 3%.

19. The composition of claim 18 wherein the beads comprise reagents necessary for the analysis of a biological sample.

20. The method of claim 18, wherein the beads comprise sodium fluoride.

21. The method of claim 18, wherein the beads comprise potassium oxalate.

22. The composition of claim 18 wherein each bead completely dissolves in less than about 20 μl of solution.

23. The composition of claim 18 wherein the beads dissolve in less than about 10 seconds in an aqueous solution.

24. The composition of claim 18 wherein each bead has a diameter between about 1.5 mm and 3.5 mm.

25. The composition of claim 18 wherein the beads comprise a surfactant at a concentration sufficient to inhibit bubble formation when the beads dissolve in a solution and a filler in a concentration sufficient to facilitate formation of a chemical lattice capable of conducting the solution into the beads.

26. The composition of claim 25 wherein the filler is polyethylene glycol, myo-inositol, polyvinylpyrrolidone, dextran, sodium cholate, mannitol, or a combination thereof.

27. The composition of claim 25 wherein the surfactant is octoxynol 9, Brij®-35, Brij®-58, or polyoxyethylene 9 lauryl ether.

28. The composition of claim 25 wherein the beads comprise reagents suitable for determination of total protein in a blood sample the filler is polyethylene glycol and the surfactant is polyoxyethylene 9 lauryl ether.

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